

Examination event

▼ Patient Header

▼ Demographics

- Date of birth
- Current Address
- Home Address if different
- Current Phone
- Home phone if different
- GP Code
- GP Practice Code

▼ Alert

- Allergies
- Risks

▼ Personal

- Death Date

- Deceased

- Religion

- Ethnic Origin

▼ Living arrangement

- openEHR-EHR-EVALUATION.living_arrangement.v0

▼ Occupation

- openEHR-EHR-EVALUATION.occupation_summary.v1

▼ Communication Preferences

- Communication capability, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2021-02-16]. Available from: <https://ckm.openehr.org/ckm/archetypes/1013.1.3155>
Needs to line up with soclai care work

- ▶ Contacts **10**

▼ Global

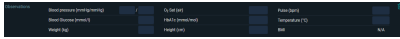
- ▼ ● Risks
 - openEHR-EHR-EVALUATION.precaution.v1
- ▼ Social History
 - ▼ ● Smoking
 - openEHR-EHR-EVALUATION.tobacco_smoking_summary.v1
 - ▼ ● Alcohol
 - openEHR-EHR-EVALUATION.alcohol_consumption_summary.v1
 - ▼ ● Substance use
 - openEHR-EHR-EVALUATION.substance_use_summary.v0
- ▼ ● Allergies
 - openEHR-EHR-EVALUATION.adverse_reaction_risk.v1
- ▼ ● Family History
 - openEHR-EHR-EVALUATION.family_history.v2
- ▼ Birth History
 - ▼ ● Pregnancy summary
 - Not correct archetype but does have birth history
- ▼ ● Medication History
 - openEHR-EHR-OBSERVATION.medication_statement.v0
- ▼ Disability
 - ▼ ● CVI Status (certificate of vision impairment)
 - [↗ Standards and guidance | The Royal ...](#)

▼ History

- ▼ ● History
 - ▼ OBSERVATION.story
 - History
- ▼ Contextual PL
 - ▼ ● Systemic Diagnosis
 - openEHR-EHR-EVALUATION.problem_diagnosis.v1
 - ▼ ● Systemic surgical history

- openEHR-EHR-ACTION.procedure.v1
- ▼ ● Ophthalmic surgical history
 - openEHR-EHR-ACTION.procedure.v1

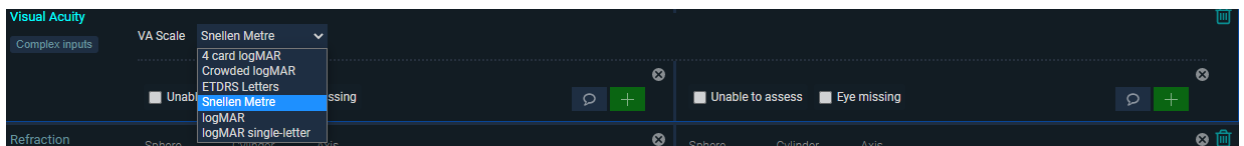
▼ General Observations



- openEHR-EHR-OBSERVATION.blood_pressure.v2
- openEHR-EHR-OBSERVATION.body_weight.v2
- openEHR-EHR-OBSERVATION.pulse_oximetry.v1
- openEHR-EHR-OBSERVATION.height.v2
- openEHR-EHR-OBSERVATION.pulse.v2
- openEHR-EHR-OBSERVATION.body_mass_index.v2

▼ Visual Function

▼ ● Visual Acuity



▪

Correction	Type	Source	Fixation	Occluder	CHP
Unaided	4 card logMAR	Kay Picture Crowded	Central	Speilmann	Used
Glasses	Crowded logMAR	Kay Picture Single crowded	Steady		Not Used
Contact lens	ETDRS Letters	Cardiff Cards	Maintained		
Pinhole	Snellen Metre				
Auto-refraction	logMAR				
Formal refraction	logMAR single-letter				

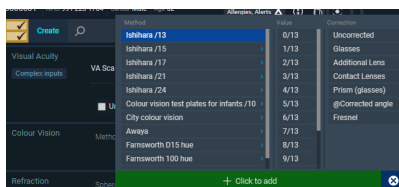
+ Click to add

- openEHR-EHR-OBSERVATION.visual_acuity.v0

▼ ● Near Visual Acuity

- openEHR-EHR-OBSERVATION.visual_acuity.v0

▪ ● Colour Vision



- Contrast Sensitivity

<http://optometryzone.com/2016/12/3...>

Sensitivity	Value	Laterality	Correction
Pelli Robson	0	LEFT	Uncorrected
Bailey-Lovie	1	RIGHT	Glasses
Cambridge low contrast sensitivity	2	BEO	Additional Lens
	3		Contact Lenses
	4		Prism (glasses)
	5		@Corrected angle
	6		Fresnel
	7		
	8		
	9		

+ Click to add

- Refraction

Sphere			Cylinder			Axis			Type			
—	1	0	.00	—	1	0	.00	1	0	0	Auto-refraction	
+	2	1	.25	+	2	1	.25	2	1	1	Ophthalmologist	
	3	2	.50								3	2
		3	.75			3	.75			3	Focimetry	
		4				4				4	4	Other
		5				5				5	5	
		6				6				6	6	
		7				7				7	7	
		8				8				8	8	
		9				9				9	9	

+ Click to add

- openEHR-EHR-OBSERVATION.refraction.v0

- Retinoscopy



- Detailed view

Working Distance	Angle	P1	P2
1/3m	1	0	0
1/2m	1	1	1
2/3m	2	2	2
1m	3	3	3
1.5m	4	4	4
	5	5	5
	6	6	6
	7	7	7
	8	8	8
	9	9	9

+ Click to add

- Correction Given

Blood glucose (reading) Weight (kg)

Visual Acuity (Complex inputs) VA Scale Snellen Metre

Unable to assess Eye missing

Refraction Sphere Cylinder Axis

Correction Given Order as Adjusted

+ Click to add

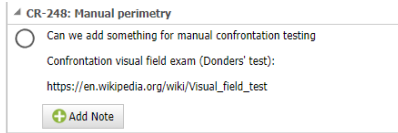
- New archetype for Ocular Prescription or possibly use service request and refraction details cluster

- Functional testing

- Visual acuity
OBSERVATION.visual_acuity.v0



- Visual field



- Refraction
CLUSTER.refraction_details.v0



- Intraocular pressure (IOP)
OBSERVATION.intraocular_pressure.v0

- Bot eyes
CLUSTER.exam-eyes.v0

- Squint aka strabismus
- Brückner reflex
- Hirschberg reflex

- Stereopsis

- Lang
- TNO
- More...

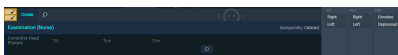
- Binocular vision (not acuity)

- One eye
CLUSTER.exam-eye.v0

- Red reflex

- Orthoptic Testing

- Corrective Head Posture



- **Cover Test**

Distance	Correction	Δ Prism Value	Prism	Δ Prism Value	Prism	CHP
Near	Uncorrected	1 0	BI	1 0	BDRE	Used
Distance	Glasses	2 1	BO	2 1	BDLE	Not Used
Far Distance	Additional Lens	3 2		3 2	BDRE	
	Contact Lenses	4 3		4 3	BDLE	
	Prism (glasses)	5 4		5 4		
	@Corrected angle	6 5		6 5		
	Fresnel	7 6		7 6		
		8 7		8 7		
		9 8		9 8		
				9 9		

- **Nine Positions**



- **Convergence & Accomodation**

Correction	CHP
Uncorrected	Used
Glasses	Not Used
Additional Lens	
Contact Lenses	
Prism (glasses)	
@Corrected angle	
Fresnel	

- **Sensory Function**

Test Type	Distance	Correction	Result	CHP
Biprism glasses	Near	Uncorrected	BDV	Used
Worth lights	Distance	Glasses	ARC	Not Used
	Far distance	Additional Lens	Left suppression	
		Contact Lenses	Right suppression	
		Prism (glasses)	Alt suppression (alternate)	
		@Corrected angle	Diplopia	
		Fresnel	Inconclusive	

- **Prism Reflex Test**

Distance	Correction	Prism	Findings	CHP
4 Dioptre	Uncorrected	BI	Right central suppression	Used
10 Dioptre	Glasses	BO	Left central suppression	Not Used
15 Dioptre	Additional Lens		Bifoveal	
20 Dioptre	Contact Lenses		Inconclusive	
	Prism (glasses)		Overcomes with either eye	
	@Corrected angle		Does not overcome with either eye	
	Fresnel			

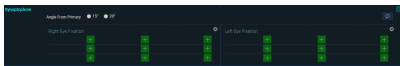
- **Prism Function Range**

Prism over	Correction	CHP
right	Uncorrected	Used
left	Glasses	Not Used
	Additional Lens	
	Contact Lenses	
	Prism (glasses)	
	@Corrected angle	
	Fresnel	

- **Stereoacuity**

Method	Correction	CHP
LANG I	Uncorrected	Used
LANG II	Glasses	Not Used
WIRT	Additional Lens	
FRISBY	Contact Lenses	
TNO	Prism (glasses)	
Other	@Corrected angle Fresnel	

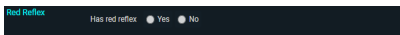
- ▼ **Synoptophore**



- **Additional items**

R Angle (deg)	R Angle (d)	L Angle (deg)	L Angle (d)	Order	Rotation	Incydo	Excydo
1	0	1	0	R/L	-	1	0
2	1	2	1	L/R	+	2	1
3	2	3	2			3	2
4	3	4	3			4	3
5	4	5	4			5	4
6	5	6	5			6	5
7	6	7	6			7	6
8	7	8	7			8	7
9	8	9	8			9	8

- **Red Reflex**



- **Post-Op Diplopia Risk**



- ▼ **Intraocular pressure**

- ▼ **Intraocular Pressure**

Instrument	mm Hg	
Goldmann	0	0
Tono-pen	1	1
I-care	2	2
Perkins	3	3
Dynamic Contour Tonometry	4	4
ORA IOPcc	5	5
ORA IOPg	6	6
Palpation	7	7
Other	8	8
Non-contact Tonometer	9	9

- **openEHR-EHR-OBSERVATION.intraocular_pressure.v0**

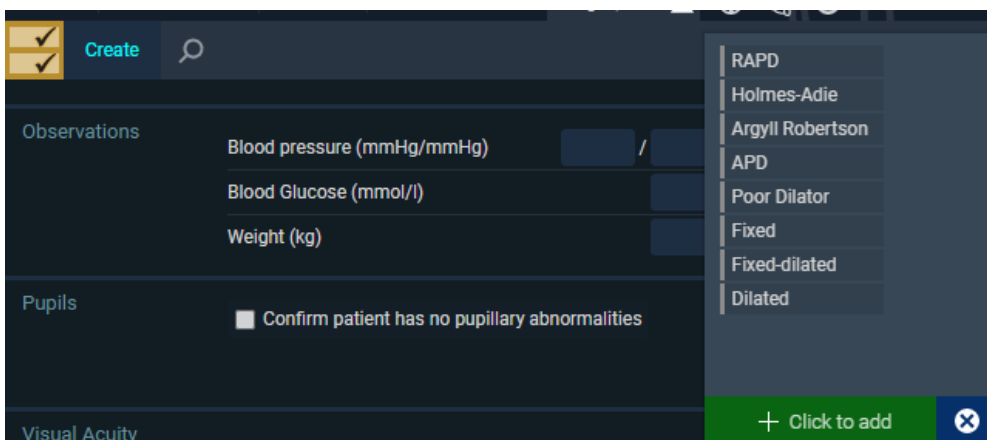
- IOP History

Instrument	mm Hg	Time
Goldmann	0 0	1 :00
Tono-pen	1 1	2 :15
I-care	2 2	3 :30
Perkins	3 3	4 :45
Dynamic Contour Tonometry	4 4	5
ORA IOPcc	5 5	6
ORA IOPg	6 6	7
Palpation	7 7	8
Other	8 8	9
Non-contact Tonometer	9 9	10

- ▼ Eye Examination

- ▼ External exam

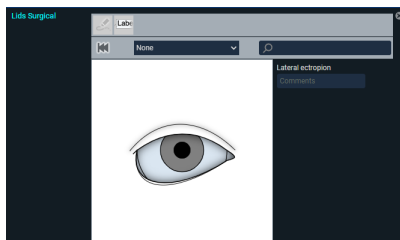
- ▼ ● Pupils



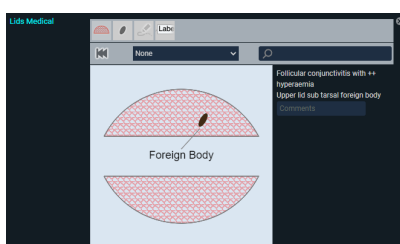
- Examination of a pupil, Draft archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2021-02-16]. Available from: <https://ckm.openehr.org/ckm/archetypes/1013.1.3882>

- ▼ Adnexal

- ● Adnexal
 - ● Lids Surgical



- ● Lids Medical

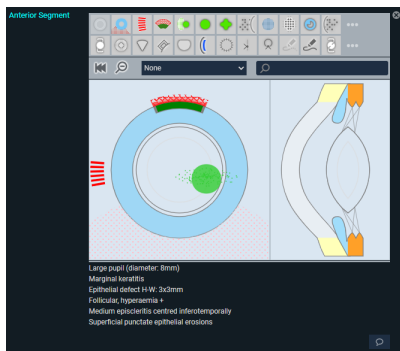


- ▼ ● Eye lids
 - CLUSTER.exam-eyelid.v0
 - Upper
 - Lower
 - Function and palpebral fissure
 - ● Surrounding tissue
 - ● Lacrimal system

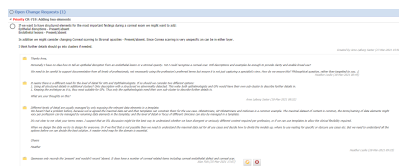
▼ Anterior parts

▼ Anterior Segment

▼ ● Anterior Segment

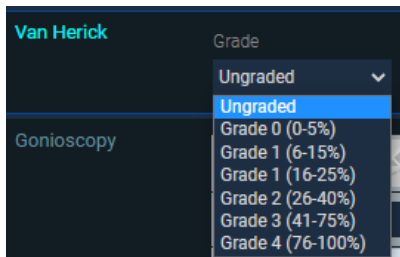


- Examination Findings - Anterior Chamber, Draft archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2021-02-16]. Available from: <https://ckm.openehr.org/ckm/archetypes/1013.1.1404>



▼ Van Herick

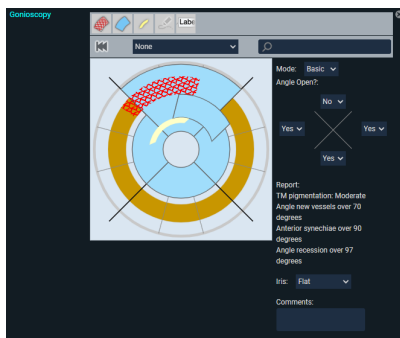
[Van Herick technique - Wikipedia](#)



The Van Herick technique for grading the depth of anterior chamber angles is one of the easiest methods to estimate the “openness” of the angle. With an optic section of the limbal cornea, orient your beam at about a 60 degree angle and compare the width of the corneal section and the width of the shadow adjacent to it.

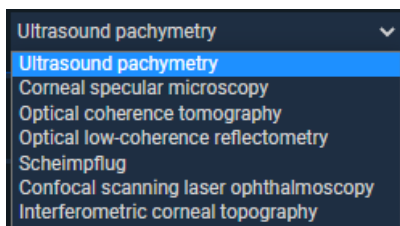
- 1:1 – Open angle, VH grade 4
- 1:1/2 – Open angle, VH grade 3
- 1:1/4 – Narrow angle, VH grade 2 (Angle Closure Possible)
- 1: <1/4 – Angle closure likely, VH grade 1

▪ Gonioscopy

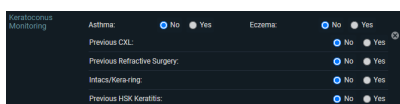


▪ Central Corneal Thickness

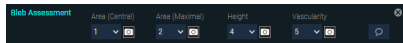
[Central corneal thickness measurement...](#)



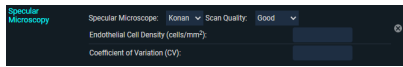
▪ Keratoconus Monitoring



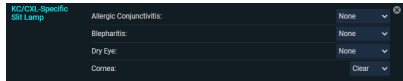
- **Bleb Assessment**



- **Specular Microscopy**



- **KC/CXL-Specific Slit Lamp**



- ▼ **Cornea**

- CLUSTER.exam-cornea.v0

- Epithelium
 - Stroma
 - Endothelium

- ▼ **Anterior Chamber**

- ▼ **Gnoioscopy aka Anterior chamber angle exam**

- More details to come..

- ▼ **Anterior chamber fluid**

- CLUSTER.exam-aqueous_humour.v0

- Flare
 - Cell count
 - Hypopyon (yes/no?) More?
 - ▼ **Keratic precipitates (KPs) aka corneal endothelial deposits**
 - Yes/no
 - Quality of deposits?
 - Quantity of deposits?

- **Bulbus (conjunctiva & sclera)**

- ▼ **Lens**

- CLUSTER.exam-lens.v0



- ▼ **Cataracts**

- Yes/No

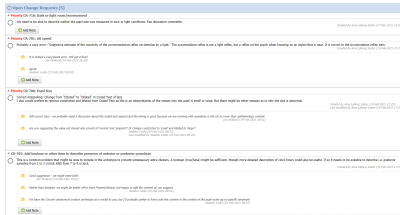
- Type & degree of cataracts
- More details to come..

▼ ● Iris

- More details to come..

▼ ● Pupil

CLUSTER.exam-pupil.v0



▪ Subtopic 1



▼ Posterior parts

▼ ● Fundus aka retinal exam
CLUSTER.exam-retina.v0

- Macula
- Peripheral fundus/retina

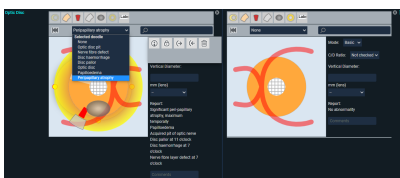
▼ ● Optic Nerve Head (ONH) exam

- Cup-to-disc ratio
- Color of ONH
- More details to come...

▼ ● Vitreous body aka vitreous humor
CLUSTER.exam-aqueous_humour.v0

- ▼ Pathological findings
 - Yes-No
 - More details to come..

▼ Optic Disc



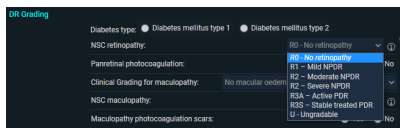
- Fundoscopic examination of eyes, Draft archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2021-02-16]. Available from: <https://ckm.openehr.org/ckm/archetypes/1013.1.208>

▼ Retina

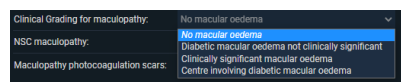
- Macula



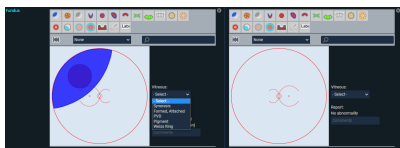
▼ DR Grading



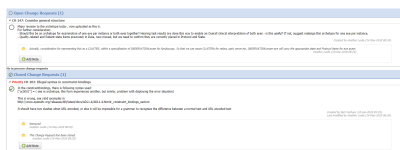
- Additional detail



- Fundus



- Fundoscopic examination of eyes, Draft archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2021-02-16]. Available from: <https://ckm.openehr.org/ckm/archetypes/1013.1.208>



▼ Drops

- Medication management, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2021-02-16]. Available from: <https://ckm.openehr.org/ckm/archetypes/1013.1.123>

▼ Ophthalmic Diagnosis

- Ophthalmic Diagnosis
 - ▼ EVALUATION.problem_diagnosis
 - Diagnosis
- Further Findings

▼ Investigation

▼ Investigation

- ● Service request for orders

- ● lab tests

▼ ● Imaging results

- ▼ Imaging examination result, Draft archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2021-02-16]. Available from: <https://ckm.openehr.org/ckm/archetypes/1013.1.1494>

- ● OCT (Manual)
- ● OCT
- ● Corneal Tomography

- ● **Glaucoma Risk**

- ● ? **PCR Risk**

▼ Clinical Management

▼ Clinical Management

- ▼ ACTION.procedure

- Treatment

▼ Cataract Surgical Management

- ▼ ACTION.procedure

- Treatment

▼ Medication Management

- ▼ CLUSTER.medication

- Prescriptions

- ? Glaucoma Overall Plan

- ? Glaucoma Current Plan

- ? Laser Management

- ? Injection Management

- ? Strabismus Management

▼ Follow-up

- Review, Draft archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2021-02-16]. Available from: <https://ckm.openehr.org/ckm/archetypes/1013.1.1326>

▼ Post-op Complications

- ▼ ACTION.procedure
 - complications

▼ Optometrist Comments

- ▼ Comments
 - Clinical synopsis, Published archetype [Internet]. openEHR Foundation, openEHR Clinical Knowledge Manager [cited: 2021-02-16]. Available from: <https://ckm.openehr.org/ckm/archetypes/1013.1.409>

▪ Arne

Incubator: AMD, Diabetic Retinopathy & Glaucoma



Description

↳ Incubator to examine early candidates for archetypes involved in the clinical processes that manage the major eye diseases leading to blindness: DR, AMD and glaucoma.

This is the list of archetypes, templates and termsets that are associated with, and used by, this project. Some of these are directly owned by this project but others may be owned by other projects ("referenced"). Owned resources are presented in bold, referenced resources are presented in italics.

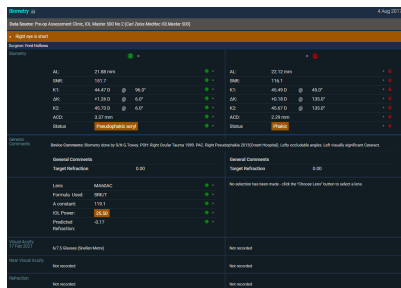
Archetypes

- 🔍 **Acquisition details on eye fundus images**
Defines specific details about the acquisition of images from eye fundus.
- 🔍 **Acquisition details on ophthalmic tomography**
Defines specific details about ophthalmic tomography studies.
- 🔍 **Acquisition details on visual field test**
Defines specific details about perimetry studies.
- 🔍 **Analysis of clinical encounter**
Analysis of completion of specific healthcare procedures in terms of quality.
- 🔍 **Central corneal thickness details**
Measurement details about of the central corneal thickness.
- 🔍 **Classification of age related macular degeneration**
Classifies the condition and argues the diagnostic decision for age-related macular degeneration.
- 🔍 **Classification of Diabetic Retinopathy**
International clinical disease severity scale for diabetic retinopathy and diabetic macular edema.
- 🔍 **Classification of diabetic retinopathy during its screening**
Identifies presence or absence of signs for diabetic retinopathy to carry out a screening of the disease
- 🔍 **Classification of glaucoma**
Classifies the type of glaucoma of patients and provides key clinical findings to support the diagnostic decision.
- 🔍 **Clinical decision**
Defines the process of making a decision about the diagnosis of a specific disease.
- 🔍 **Clinical image acquisition and validation**
Manages the acquisition and validation of diagnostic tests based on medical imaging.
- 🔍 **Contraindication of intravitreal anti-VEGF injections**
Identification of the criteria considered for exclude patients from treatment using intravitreal anti-VEGF injections.

- <https://ckm.openehr.org/ckm/incubators/1013.30.6>

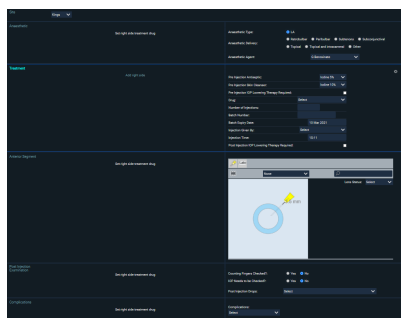
History	Visual Function	Anterior Segment	Retina	Orthoptic Testing	Clinical Management
History	Pupils	Anterior Segment	Macula	Corrective Head Posture	Clinical Management
Systemic Diagnoses	Visual Acuity	Van Herick	DR Grading	Cover Test	Cataract Surgical Management
Allergies	Near Visual Acuity	Gonioscopy	Fundus	Nine Positions	Medication Management
Systemic Surgical History	Colour Vision	CCT	Ophthalmic Diagnoses	Convergence & Accommodation	Glaucoma Overall Plan
Ophthalmic Surgical History	Contrast Sensitivity	Keratoconus Monitoring	Ophthalmic Diagnoses	Sensory Function	Glaucoma Current Plan
Medication History	Refraction	Bleb Assessment	Further Findings	Prism Reflex Test	Laser Management
Risks	Retinoscopy	Specular Microscopy	Investigation	Prism Fusion Range	Injection Management
CVI status	Correction Given	KC/CXL-Specific Slit Lamp	Investigation	Stereoacuity	Strabismus Management
Family History	Adnexal	Drops	OCT (manual)	Synoptophore	Follow-up
Social History	Adnexal	Intraocular Pressure	OCT	Red Reflex	Post-Op Complications
Birth History	Lids Surgical	Intraocular Pressure	Corneal Tomography	Post-Op Diplopia Risk	Optometrist Comments
Communication Preferences	Lids Medical	IOP History		Glaucoma Risk	
Observations		Optic Disc		PCR Risk	
Contacts					

▼ Biometry Event



- Biometry
- Target Refraction
- Lens detail
- Visual Acuity
- Near Visual Acuity
- Refraction

▼ Injection Event



- Site (Location)
- Anesthetic

- Treatment
- Anterior Segment
- Post Injection Examination
- Complications